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Regulatory Compliance

ORiNOCO AP-700 Access Point

Safety and Regulatory Compliance Information

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ORiNOCO AP-700 Safety and Regulatory Guide
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Please read this document before installing and using your product, and save these instructions.

Products Covered in the Guide

This document contains important safety and regulatory compliance information for the following products:

Product	Model Numbers
ORiNOCO Tri-Mode Access Point AP-700	AP-AG-AT-01 8675-AU 8675-AU2 8675-BR 8675-CN 8675-EU 8675-EU2 8675-HK 8675-JP 8675-SG 8675-SK 8675-TW 8675-UK 8675-US 8675-US2 8675-WD

Please see the following sections for more information:

- Safety Information (USA, Canada, & European Union)
- Federal Communications Commission (FCC) Compliance
- Information for Professional Installers

Safety Information (USA, Canada, & European Union)

This product has been evaluated to, and complies with, the Safety requirements of UL60950:2000, and IEC60950:1999; the Standards for the Safety of Information Technology Equipment. When using this device, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Operate and install this product as described in this manual. This device must be installed and used in strict accordance with the manufacturer's instructions.
- This product is suitable for installation in air handling spaces (plenum).
- Use only the AC/DC power supply adapter provided. For replacement, contact your local supplier or distributor.
- To avoid the risk of electric shock from lightning, do not use this product during an electrical storm.
- Installation of this product must conform to local regulations and codes.
- When using this product with an external antenna, see the installation documentation provided with the antenna system.
- No user serviceable parts; all repairs and service must be handled by a qualified service center.

Federal Communications Commission (FCC) Compliance

This device operates at 2.4 GHz, 5.15 - 5.35 GHz, and 5.725 - 5.85 in compliance with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

To comply with the FCC radio frequency exposure requirements, the following antenna installation and device operating configurations must be satisfied:

- The 8675-US2 must be used indoors only and must be installed to provide a separation distance of at least 20 cm (8 inches) from all persons.
- Product models using external antennas require professional installation. The antennas used for professional installation must be fixed-mounted on indoor/outdoor permanent structures with a separation distance of at least 100 cm from all persons.
- Antennas must not be co-located and must not operate in conjunction with any other antenna or transmitter.

See the “Installation and Initialization” chapter in the *AP-700 User Guide* for cabling, mounting, and antenna installation instructions.

Modifications

Changes or modifications to this device that are not expressly approved by the manufacturer of the product could void the user’s authority to operate the equipment.

Warnings

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection again harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Information for Professional Installers

Optionally, a professional installer can connect two external antennas to the AP-700.

NOTE: *AP-700 models 8675-US2 and 8675-AU do not provide external antenna connectors for 5 GHz (802.11a) operation.*

All products using external antennas must be professionally installed, and the transmit power of the system must be adjusted by the professional installers to ensure that the system EIRP is in compliance with the limit specified by the regulatory authority of the country of application.

Follow the mounting instructions included with your external antenna, and then connect the antenna cable to the AP. Then see the following sections:

- Adjusting Tx Output Power
- Antenna Types and Maximum Gain

Adjusting Tx Output Power

NOTE: *When the system is set to transmit at the maximum power, professional installers must ensure that the maximum EIRP limit is not exceeded. To achieve this, they may have to add attenuation between the device and the antenna when a high gain antenna is used.*

Use the following formula in combination with the table of EIRP limits in US and EU countries to calculate system transmit power (based on EIRP limits) of these countries:

Tx Power (dBm) *= EIRP Limit (dBm) + FL (dB) – G (dB)*

where:

Tx Power = Output power measured at the end of the required coax adaptor cable

EIRP Limit = EIRP limits specified below

FL = Coax loss (including loss of connectors) between the end of the white coax adaptor cable and the antenna

G = Antenna Gain

Transmit output power can be reduced by selecting “Enable TX Power Control” on the **Configure > Interfaces > Op Mode** screen. Refer to the *AP-700 User Guide* for more information.

Band	EIRP Limit (dBm)	
	USA and Canada	EU
2.4 - 2.4835 GHz (Point-to-Multipoint)	36	20
2.4 - 2.4835 GHz (Point-to-Point)	When G < 6: 36 When G ≥ 6, use the following equation: $36 - \frac{G-6}{3}$	20
5.15 - 5.25 GHz	23	23
5.25 - 5.35 GHz	30	23
5.47 - 5.725 GHz	30	30
5.725 - 5.850 GHz (Point-to-Multipoint)	36	14
5.725 - 5.850 GHz (Point-to-Point)	No limit	14

Antenna Types and Maximum Gain

For devices using external antennas, professional installers should select only the antenna types listed in the following table, with gain not exceeding the listed maximum gain for each type.

Frequency Band	Antenna Type	Maximum Gain
2.4 GHz	Omni	10
	Panel	14
	Yagi	14
	Parabolic	24
5 GHz	Omni	13
	Panel	28.2
	Sector	17
	Parabolic	33.4